FIG. 1

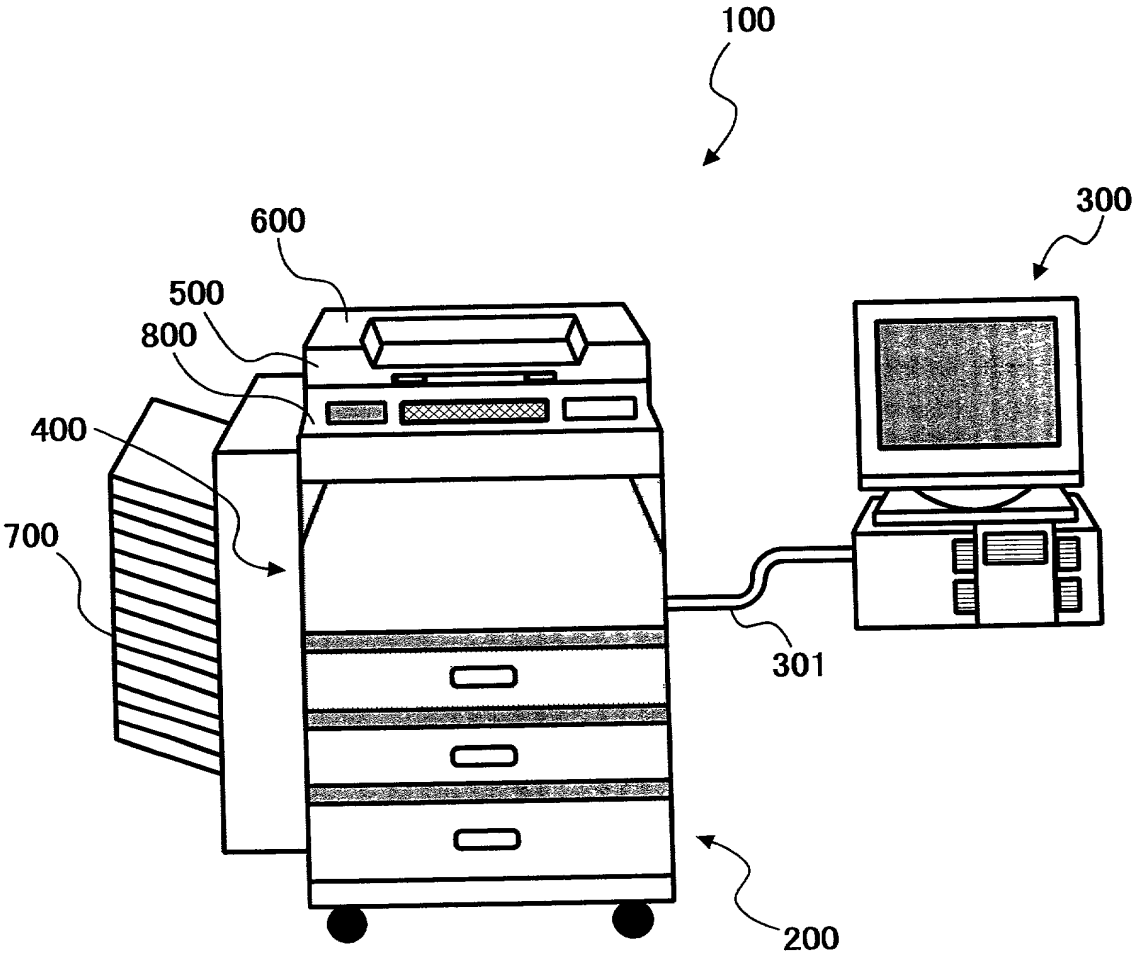
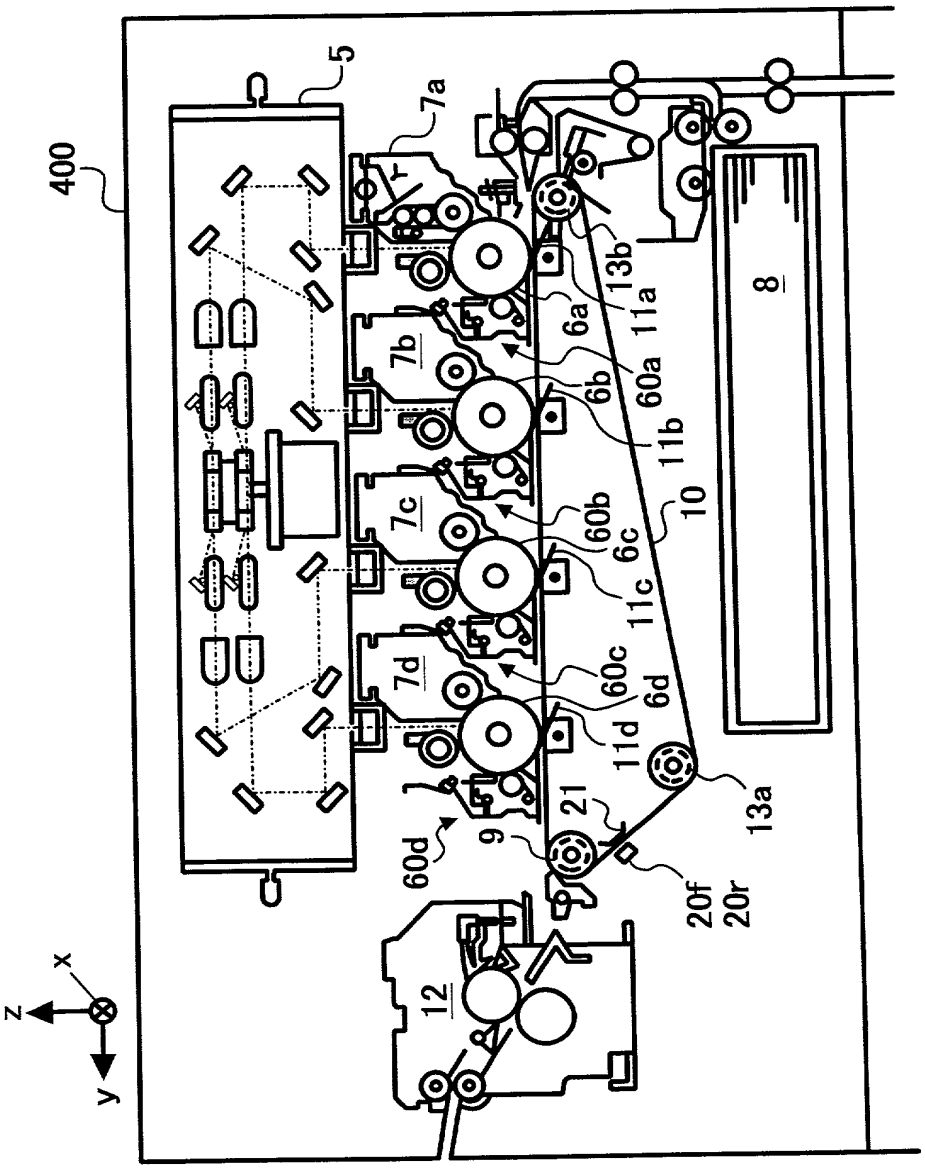


FIG. 2


400
5
7a
7b
7c
7d
6a
6b
6c
6d
60a
60b
60c
60d
11a
11b
11c
11d
13b
13a
8
10
21
9
20f
20r
12
x
z
y

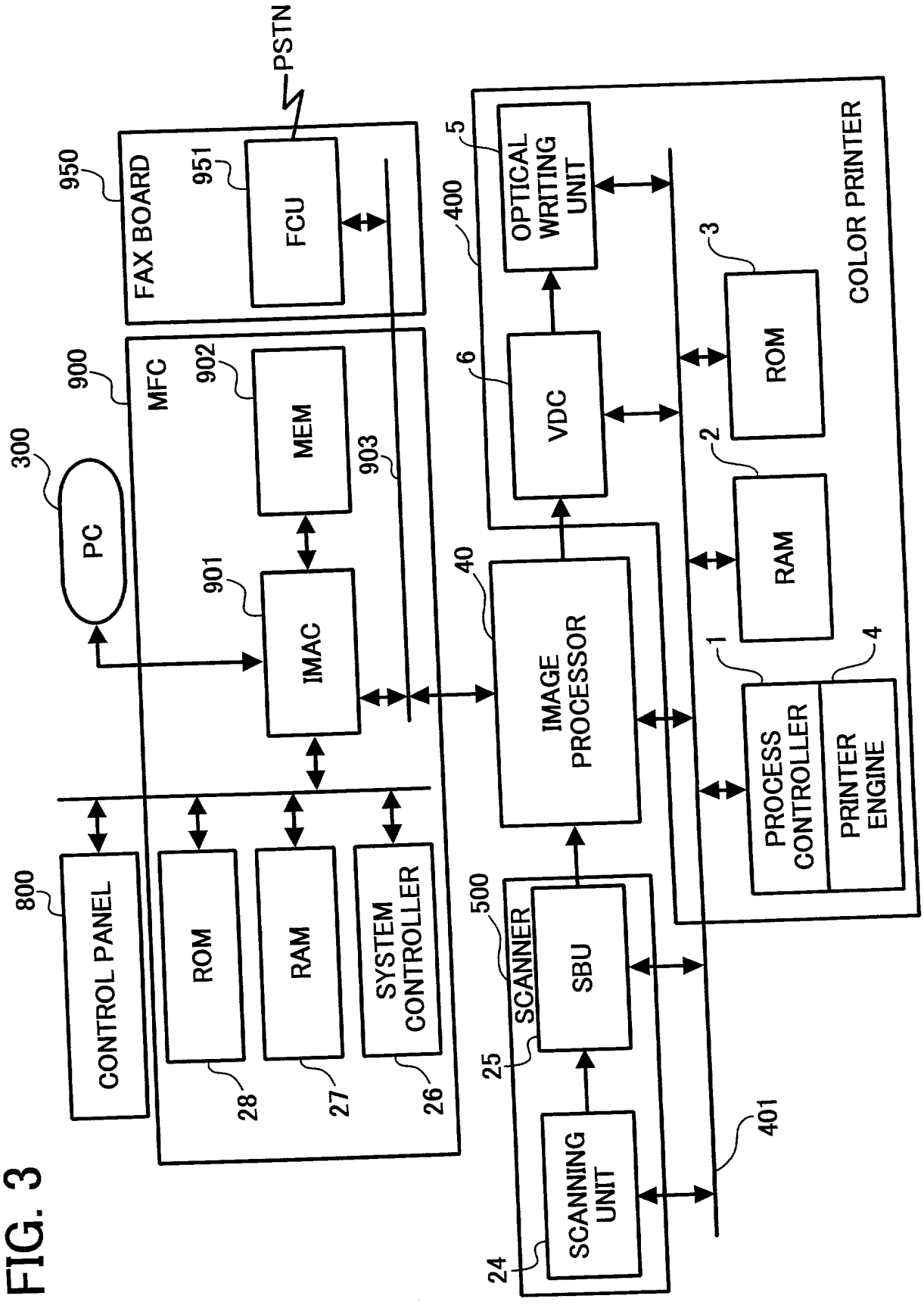

PSTN
950
FAX BOARD
951
FCU
900
MFC
902
MEM
903
300
PC
901
IMAC
800
CONTROL PANEL
ROM
28
RAM
27
SYSTEM CONTROLLER
26
500
SCANNER
SBU
25
SCANNING UNIT
24
401
40
IMAGE PROCESSOR
400
OPTICAL WRITING UNIT
5
6
VDC
3
ROM
2
RAM
1
PROCESS CONTROLLER
4
PRINTER ENGINE
COLOR PRINTER

FIG. 3

SCANNED - 04/04/2006

FIG. 4

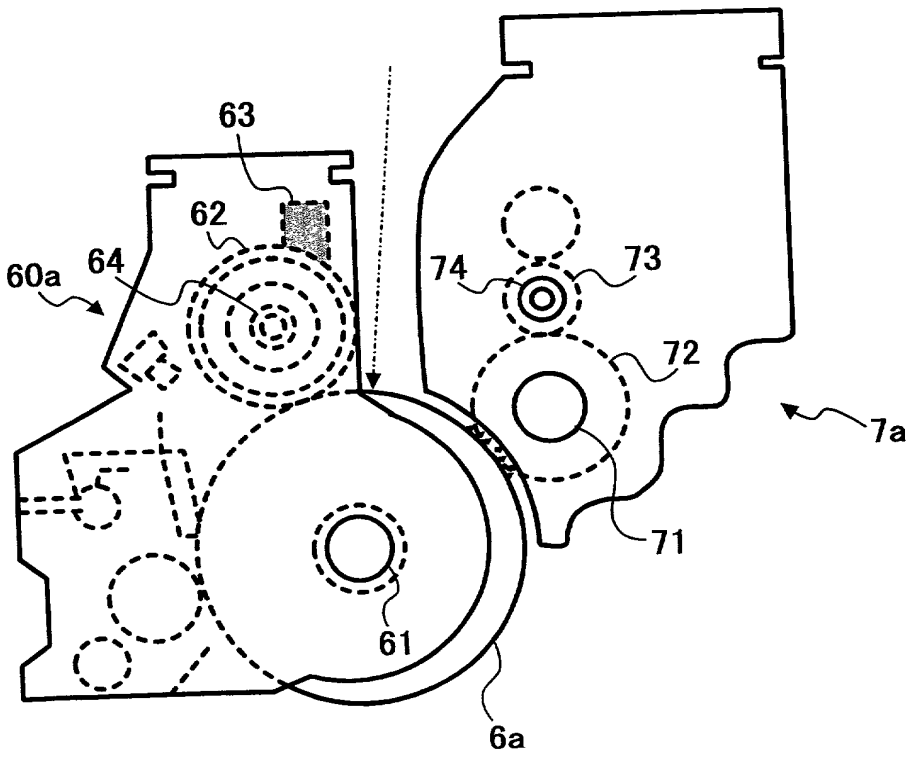


FIG. 5A

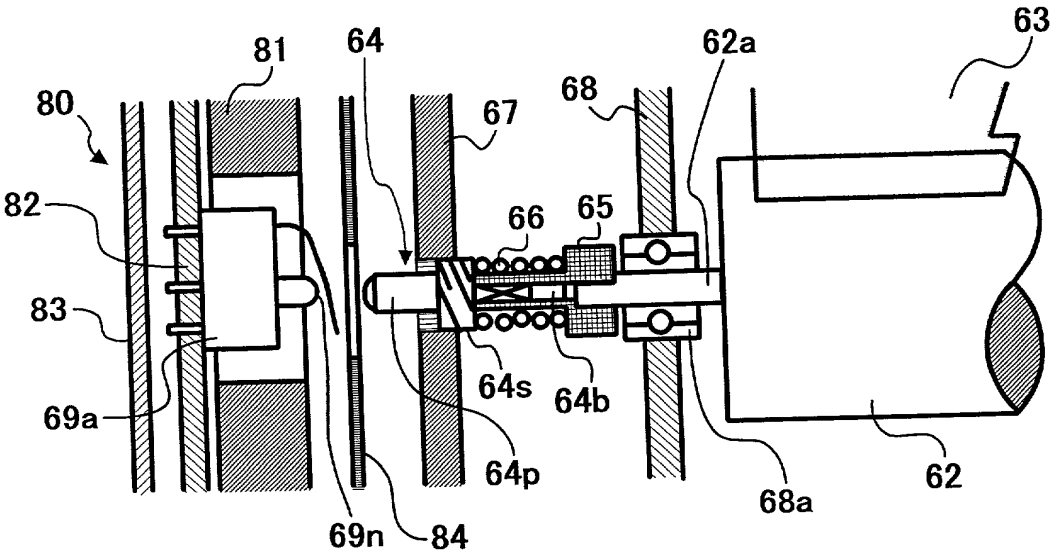

81
64
62a
63
80
67
68
82
66
65
83
64s
64b
69a
64p
62
68a
69n
84

FIG. 5B

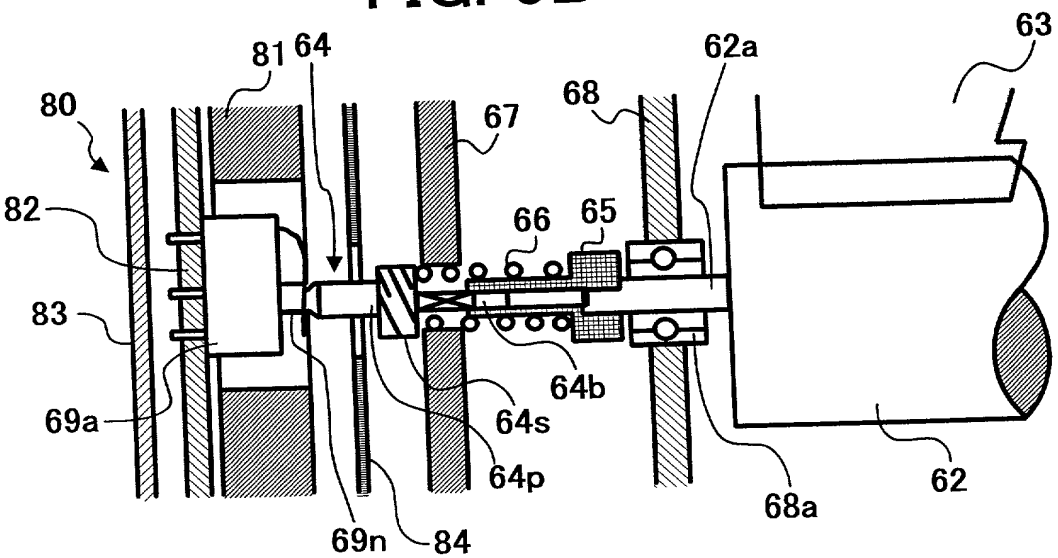

81
64
62a
63
80
68
67
82
66
65
83
64b
69a
64s
64p
62
68a
69n
84

FIG. 6

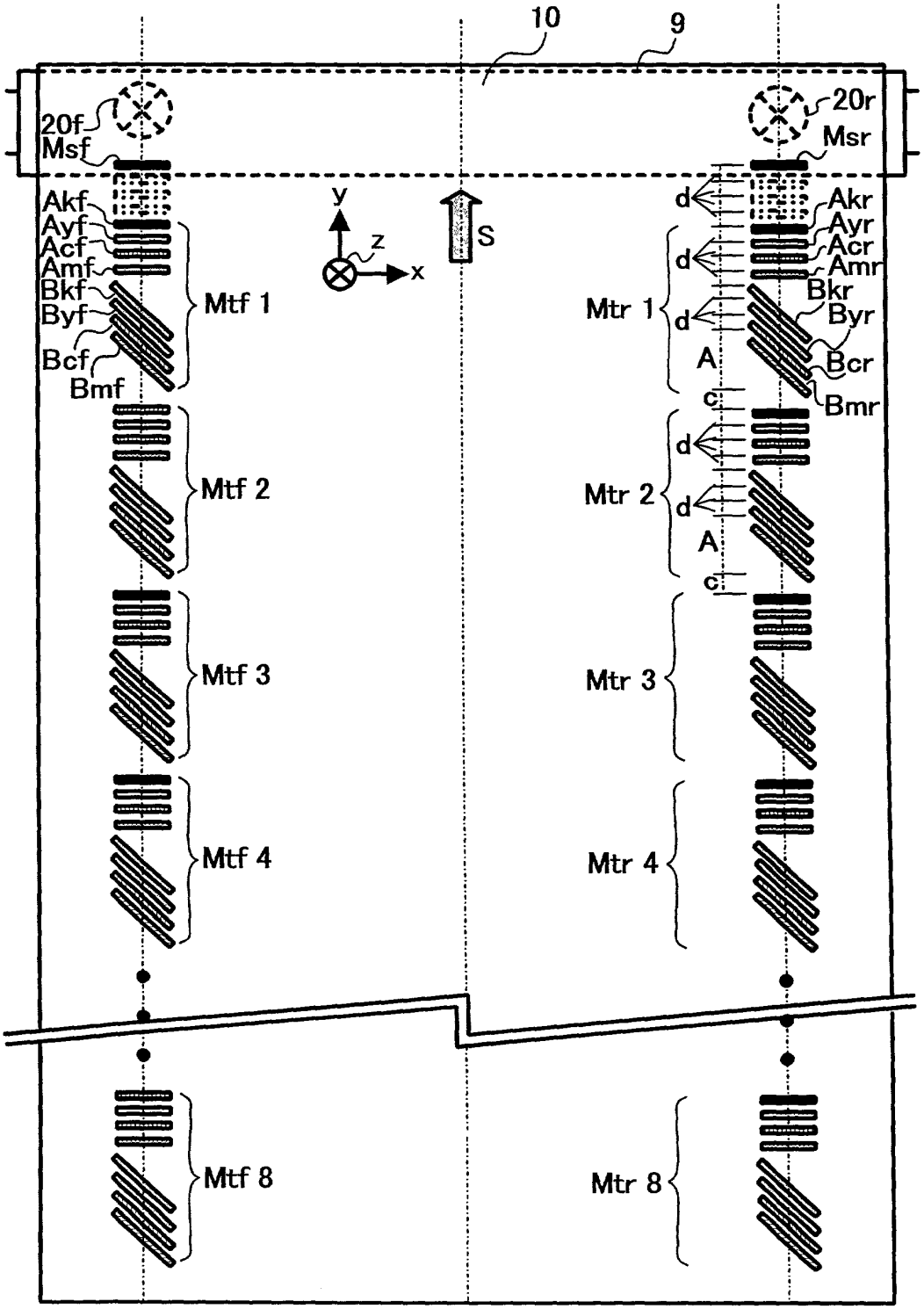

10
9
20f
Msf
20r
Msr
Akf
Ayf
Acf
Amf
Bkf
Byf
Bcf
Bmf
Mtf 1
Mtf 2
Mtf 3
Mtf 4
Mtf 8
y
z
x
S
d
Akr
Ayr
Acr
Amr
Bkr
Byr
Bcr
Bmr
A
c
Mtr 1
Mtr 2
Mtr 3
Mtr 4
Mtr 8

FIG. 7

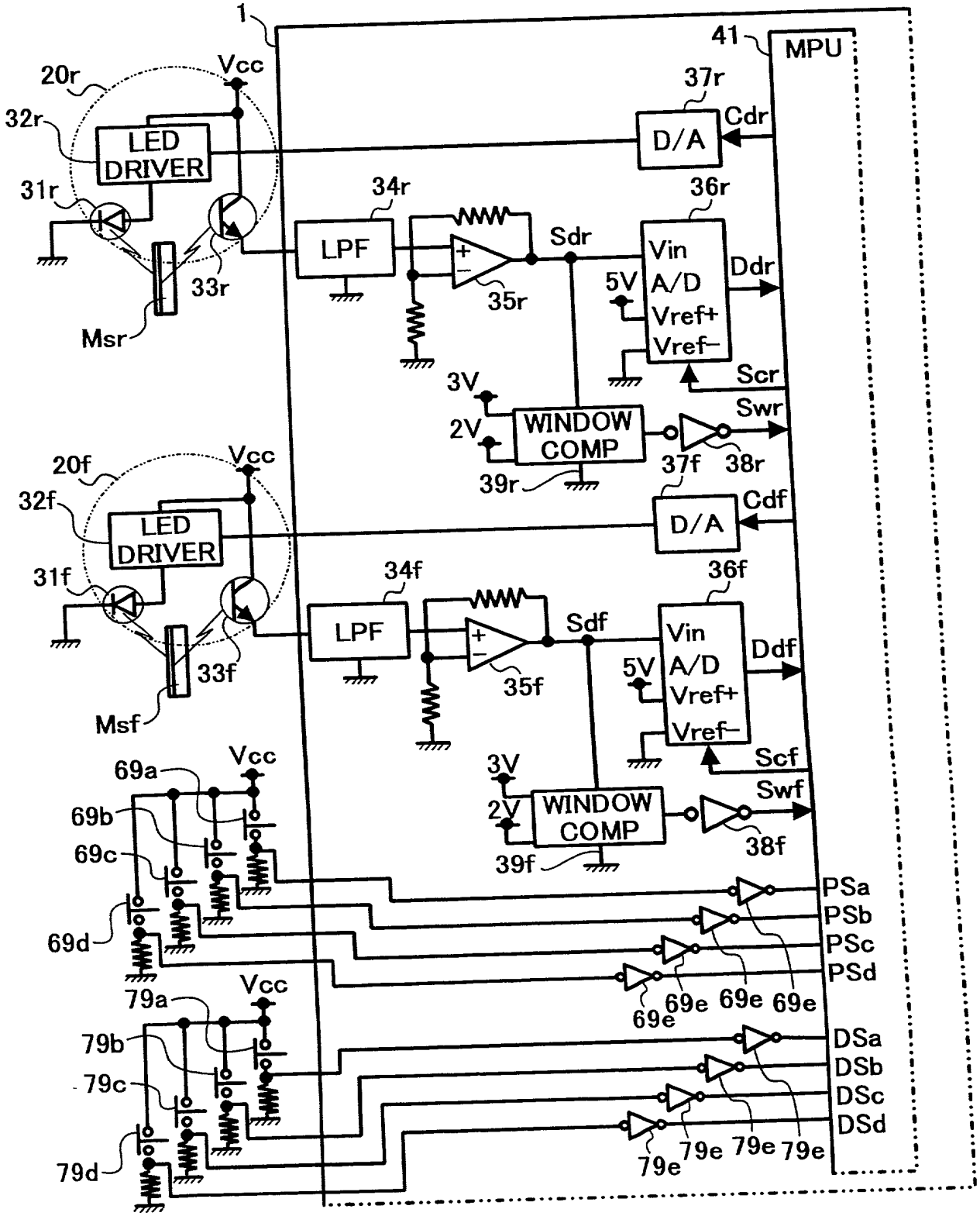

1
41
MPU
20r
Vcc
32r
LED DRIVER
31r
33r
Msr
37r
D/A
Cdr
34r
LPF
Sdr
35r
36r
Vin
A/D
Vref+
Vref−
5V
Ddr
Scr
3V
2V
WINDOW COMP
Swr
37f
38r
39r
20f
32f
31f
33f
Msf
34f
35f
36f
Sdf
Ddf
Scf
Swf
38f
39f
69a
69b
69c
69d
69e
PSa
PSb
PSc
PSd
79a
79b
79c
79d
79e
DSa
DSb
DSc
DSd

FIG. 8

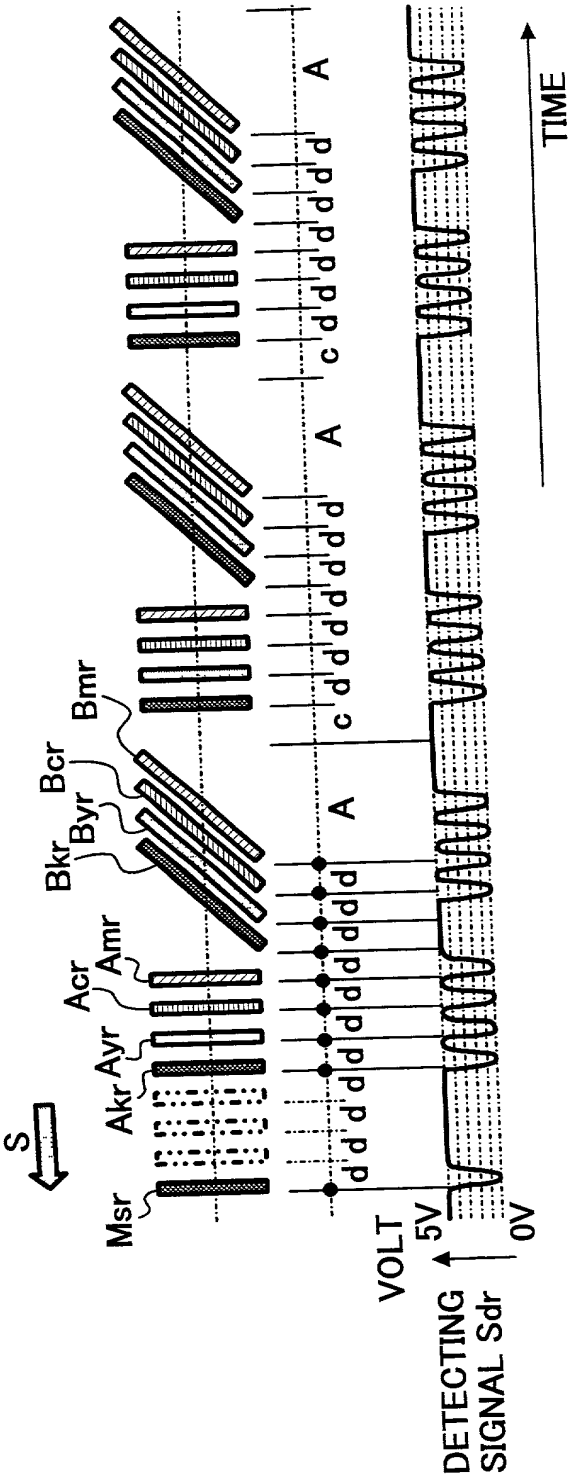

TIME
A
A
A
Bmr
Bcr
Byr
Bkr
Amr
Acr
Ayr
Akr
S
Msr
VOLT
5V
0V
DETECTING SIGNAL Sdr

FIG. 9A

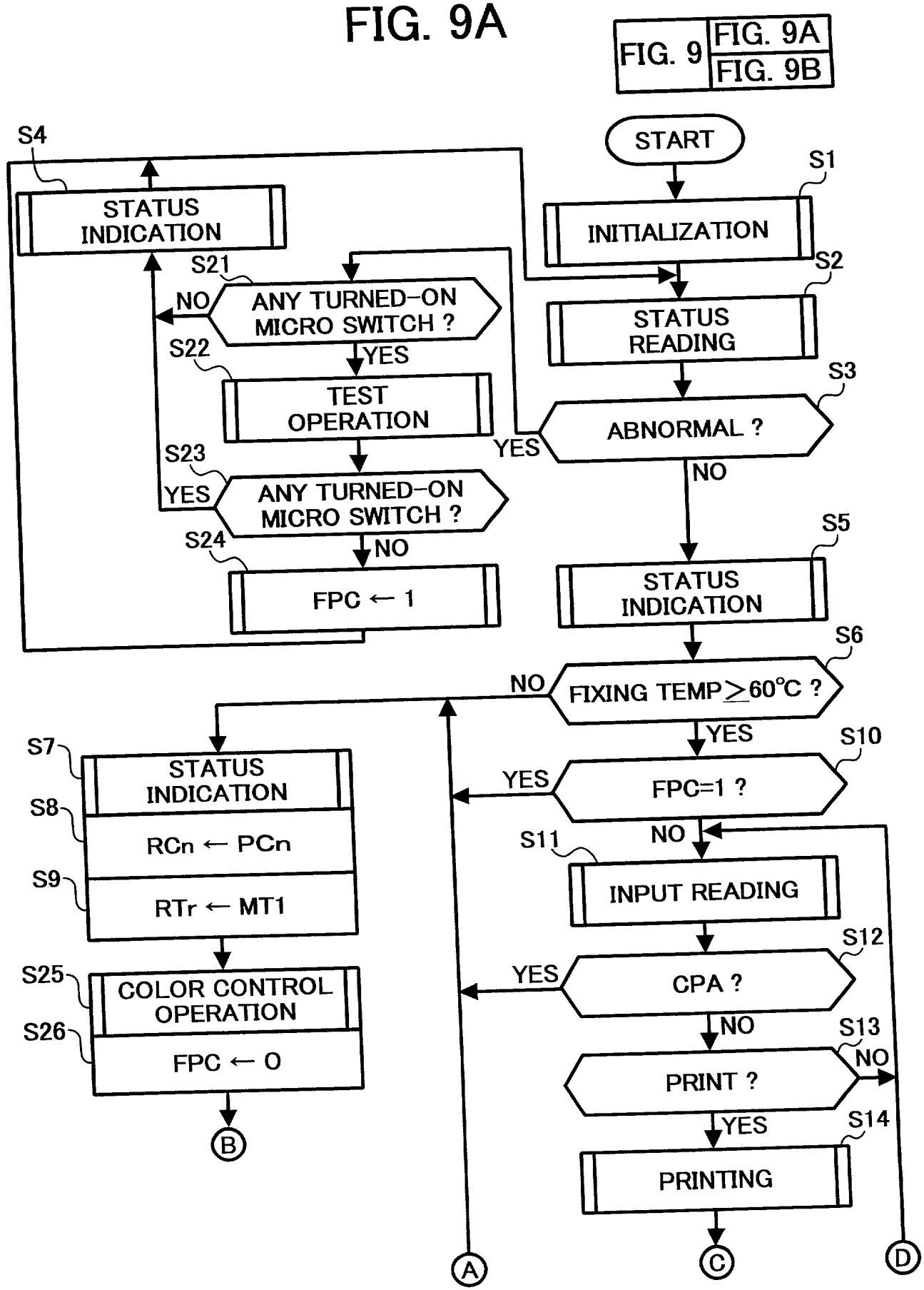


FIG. 9
FIG. 9A
FIG. 9B
START
S1
INITIALIZATION
S2
STATUS READING
S3
ABNORMAL ?
YES
NO
S4
STATUS INDICATION
S21
ANY TURNED-ON MICRO SWITCH ?
NO
YES
S22
TEST OPERATION
S23
ANY TURNED-ON MICRO SWITCH ?
YES
NO
S24
FPC ← 1
S5
STATUS INDICATION
S6
FIXING TEMP≥60°C ?
NO
YES
S7
STATUS INDICATION
S8
RCn ← PCn
S9
RTr ← MT1
S25
COLOR CONTROL OPERATION
S26
FPC ← 0
B
S10
FPC=1 ?
YES
NO
S11
INPUT READING
S12
CPA ?
YES
NO
S13
PRINT ?
NO
YES
S14
PRINTING
A
C
D

FIG. 9B

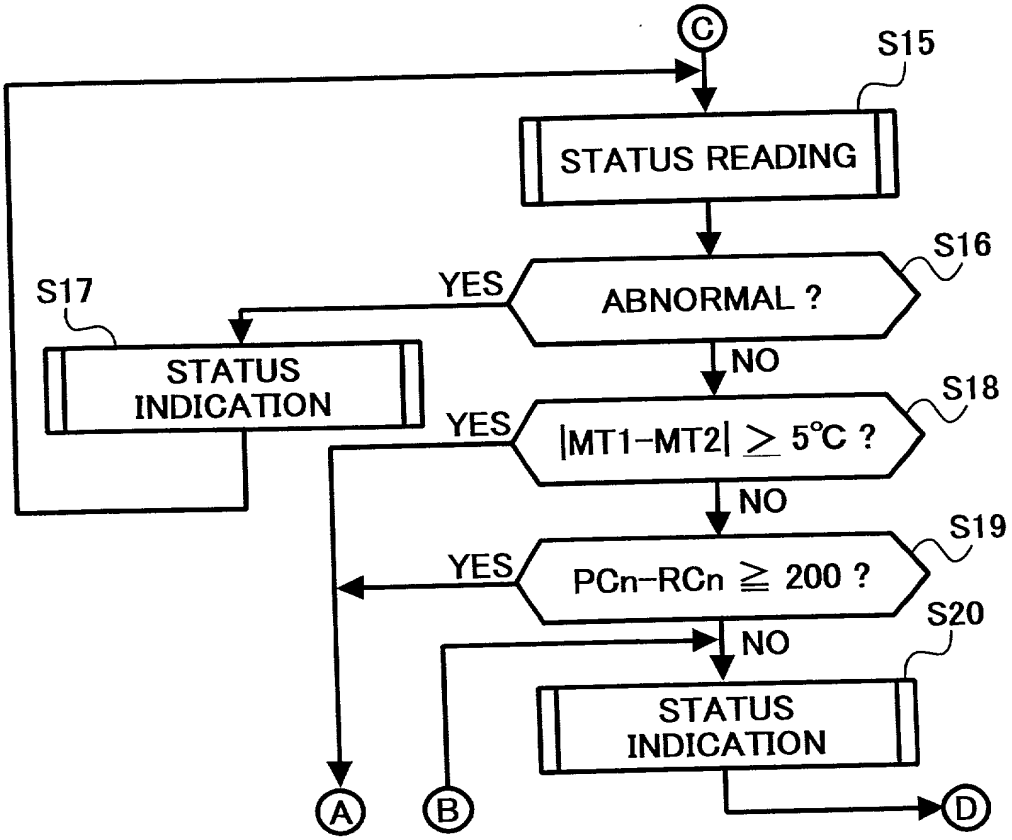

C
S15
STATUS READING
S16
YES
ABNORMAL ?
S17
STATUS INDICATION
NO
S18
YES
|MT1−MT2| ≥ 5°C ?
NO
S19
YES
PCn−RCn ≧ 200 ?
S20
NO
STATUS INDICATION
A
B
D

FIG. 10A

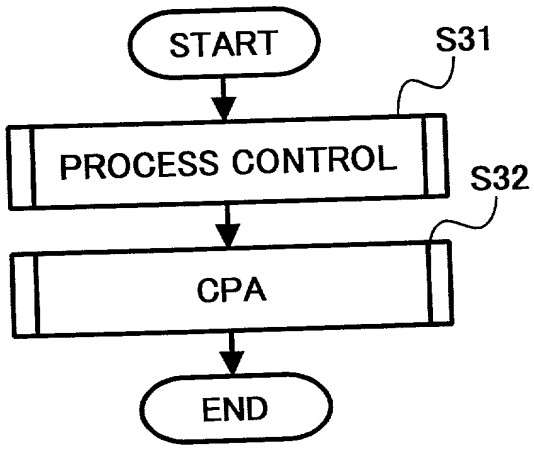


FIG. 10B

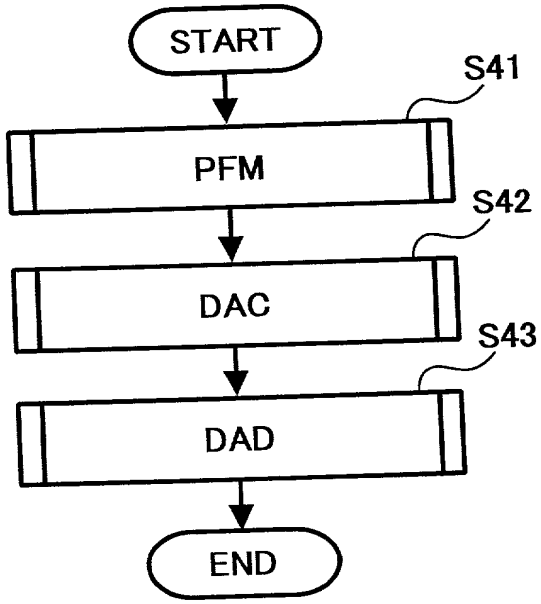


FIG. 11

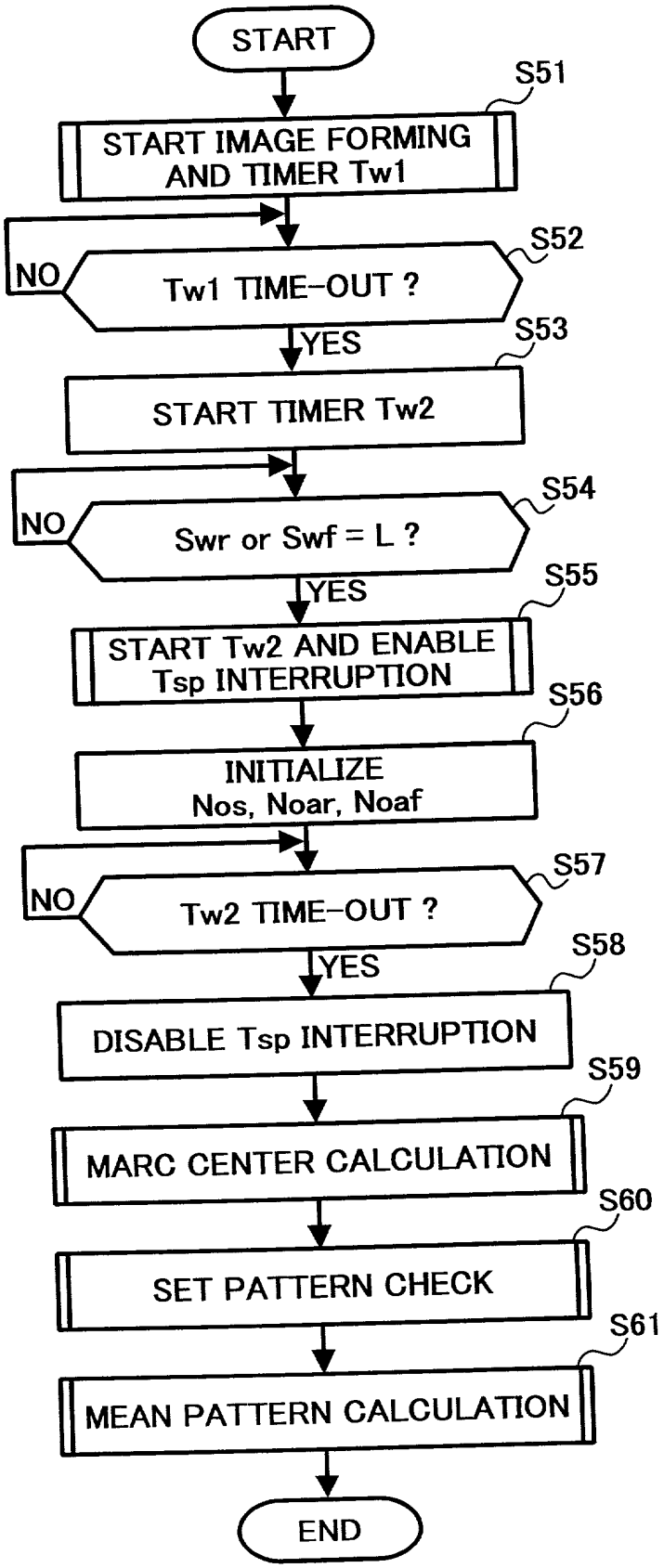

START
S51
START IMAGE FORMING AND TIMER Tw1
S52
NO
Tw1 TIME-OUT ?
YES
S53
START TIMER Tw2
S54
NO
Swr or Swf = L ?
YES
S55
START Tw2 AND ENABLE Tsp INTERRUPTION
S56
INITIALIZE Nos, Noar, Noaf
S57
NO
Tw2 TIME-OUT ?
YES
S58
DISABLE Tsp INTERRUPTION
S59
MARC CENTER CALCULATION
S60
SET PATTERN CHECK
S61
MEAN PATTERN CALCULATION
END

FIG. 12

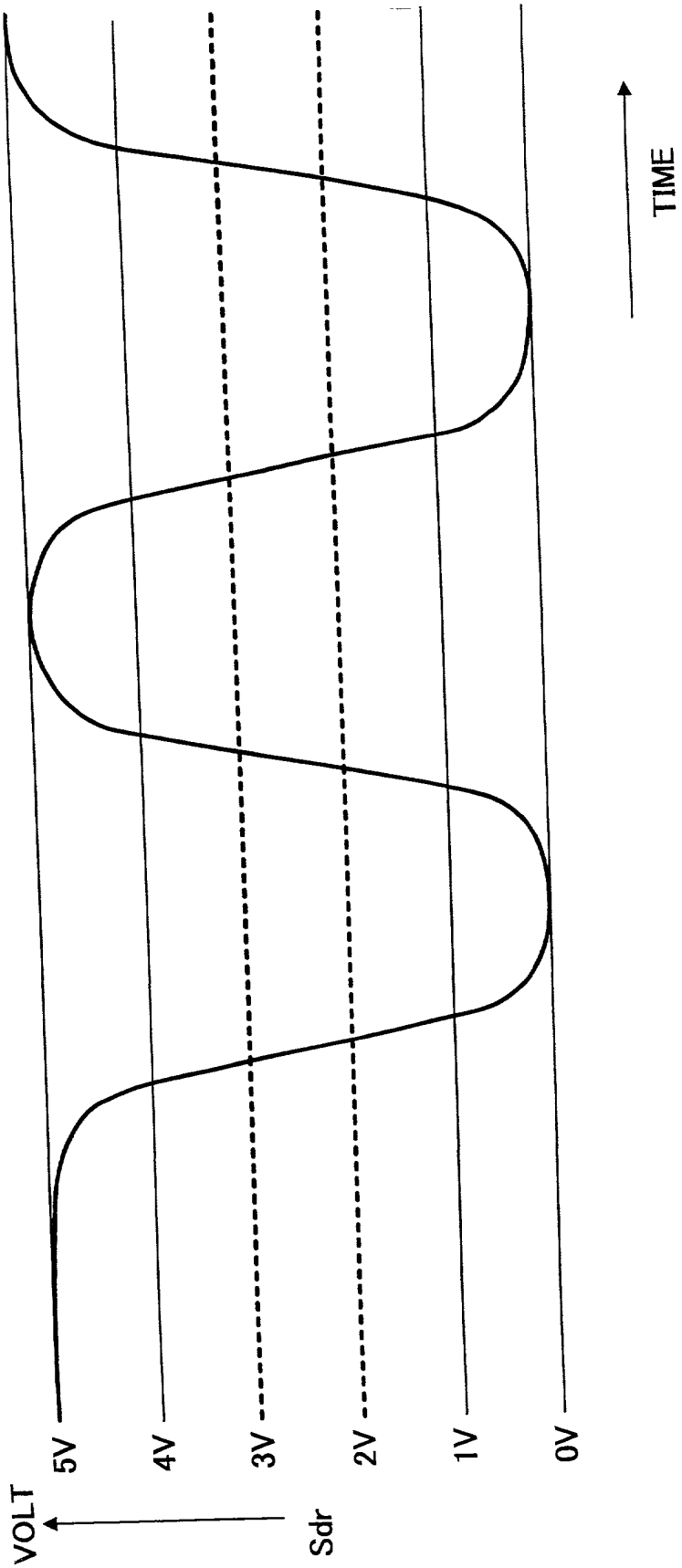


FIG. 13

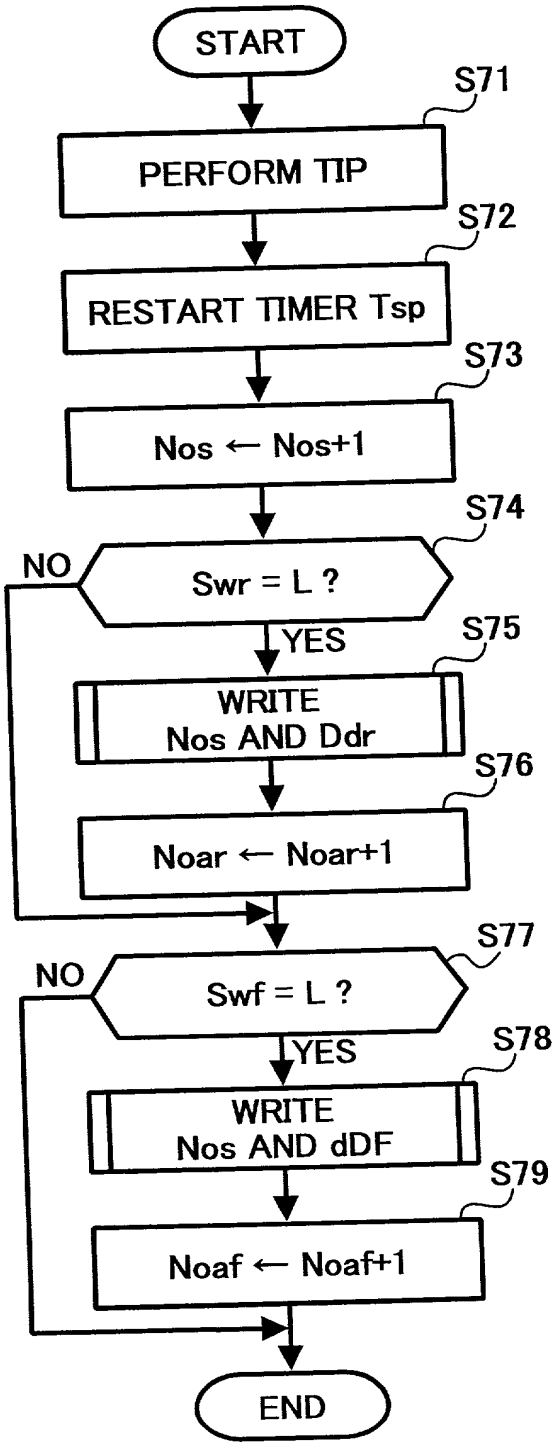

START
S71
PERFORM TIP
S72
RESTART TIMER Tsp
S73
Nos ← Nos+1
S74
NO
Swr = L ?
YES
S75
WRITE
Nos AND Ddr
S76
Noar ← Noar+1
S77
NO
Swf = L ?
YES
S78
WRITE
Nos AND dDF
S79
Noaf ← Noaf+1
END

FIG. 14

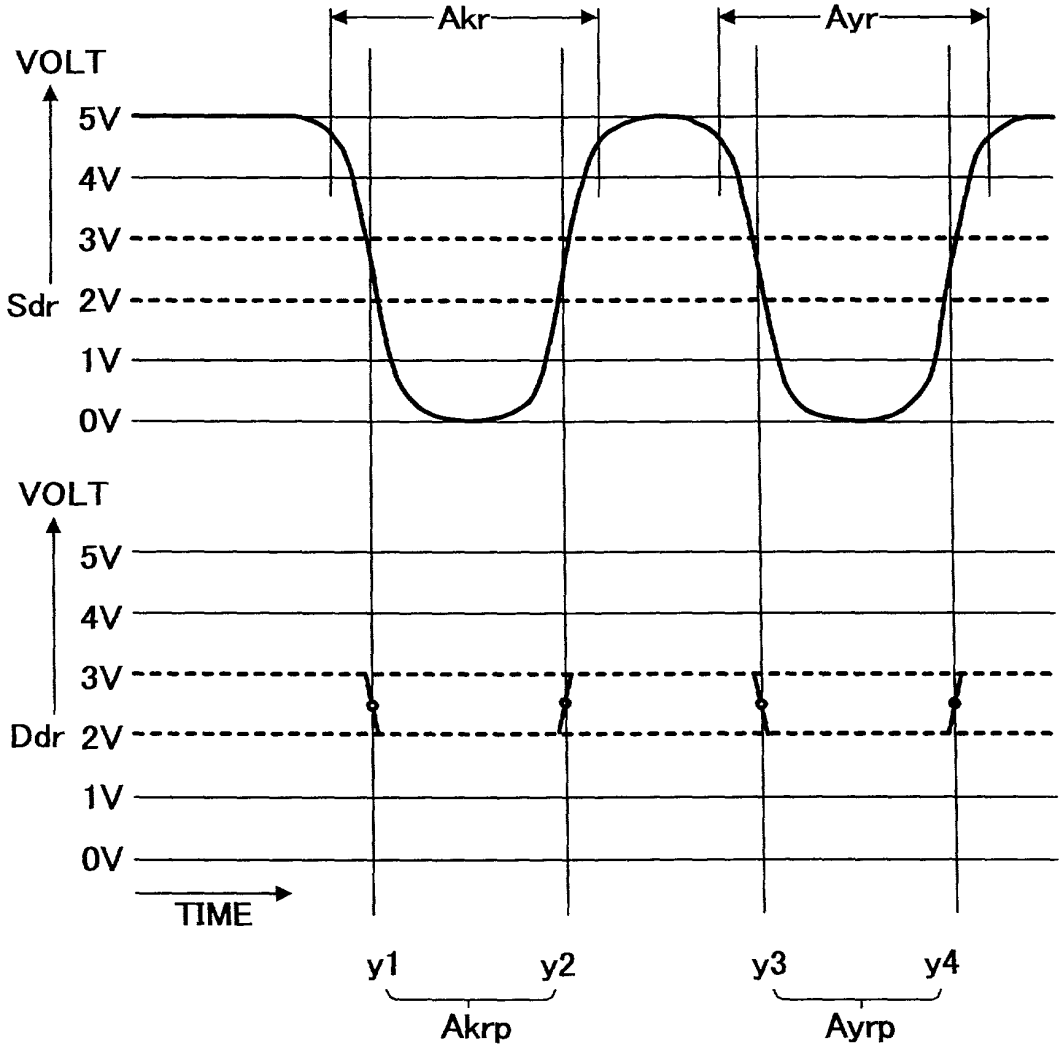

Akr
Ayr
VOLT
5V
4V
3V
Sdr 2V
1V
0V
VOLT
5V
4V
3V
Ddr 2V
1V
0V
TIME
y1
y2
y3
y4
Akrp
Ayrp

FIG. 15A

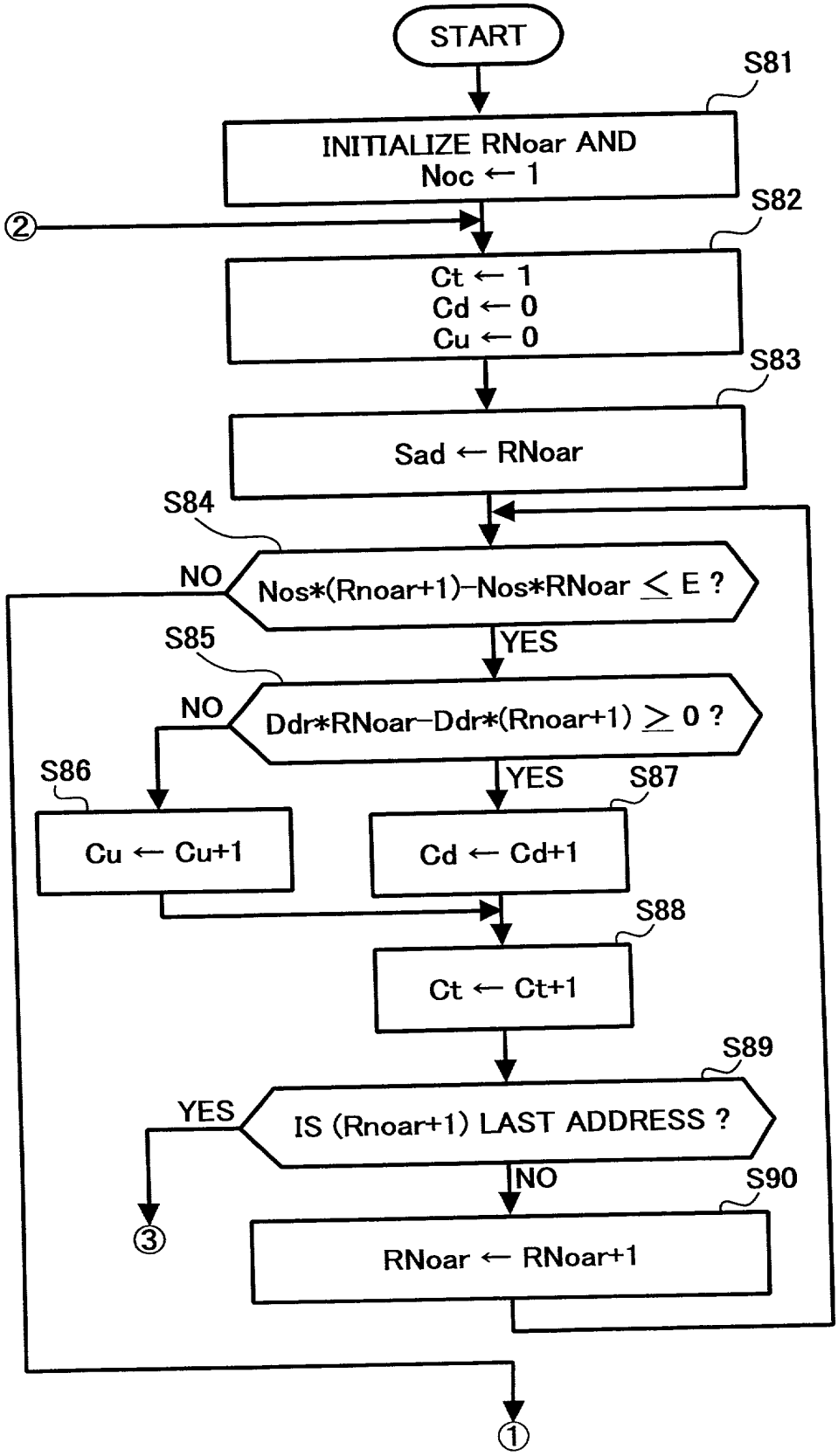

START
S81
INITIALIZE RNoar AND
Noc ← 1
②
S82
Ct ← 1
Cd ← 0
Cu ← 0
S83
Sad ← RNoar
S84
NO
Nos*(Rnoar+1)−Nos*RNoar ≤ E ?
YES
S85
NO
Ddr*RNoar−Ddr*(Rnoar+1) ≥ 0 ?
YES
S86
S87
Cu ← Cu+1
Cd ← Cd+1
S88
Ct ← Ct+1
S89
YES
IS (Rnoar+1) LAST ADDRESS ?
NO
S90
③
RNoar ← RNoar+1
①

FIG. 15B

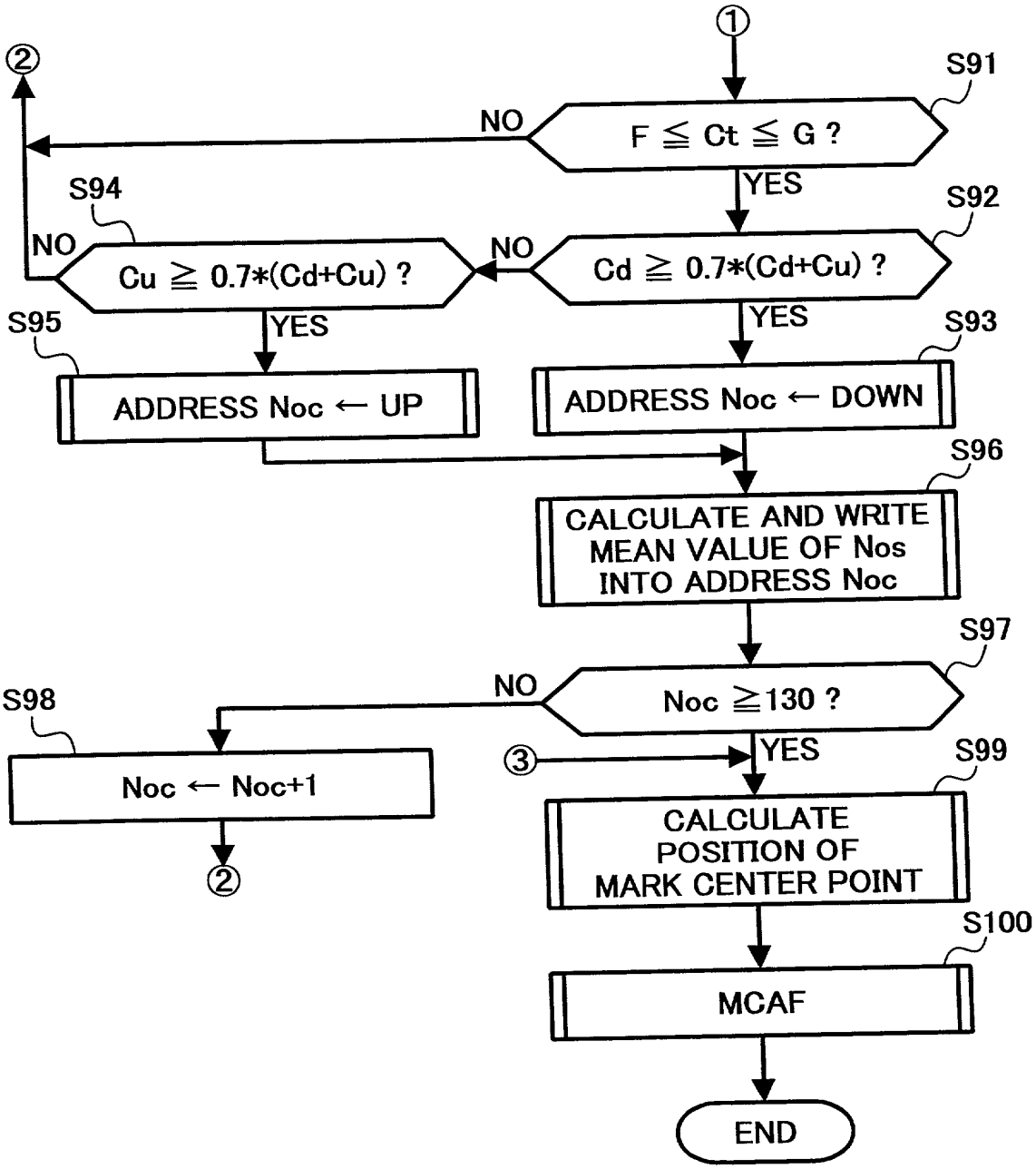

①
S91
F ≦ Ct ≦ G ?
NO
YES
S92
Cd ≧ 0.7*(Cd+Cu) ?
NO
YES
S93
ADDRESS Noc ← DOWN
S94
Cu ≧ 0.7*(Cd+Cu) ?
NO
YES
S95
ADDRESS Noc ← UP
②
S96
CALCULATE AND WRITE MEAN VALUE OF Nos INTO ADDRESS Noc
S97
Noc ≧130 ?
NO
YES
S98
Noc ← Noc+1
②
③
S99
CALCULATE POSITION OF MARK CENTER POINT
S100
MCAF
END

FIG. 16

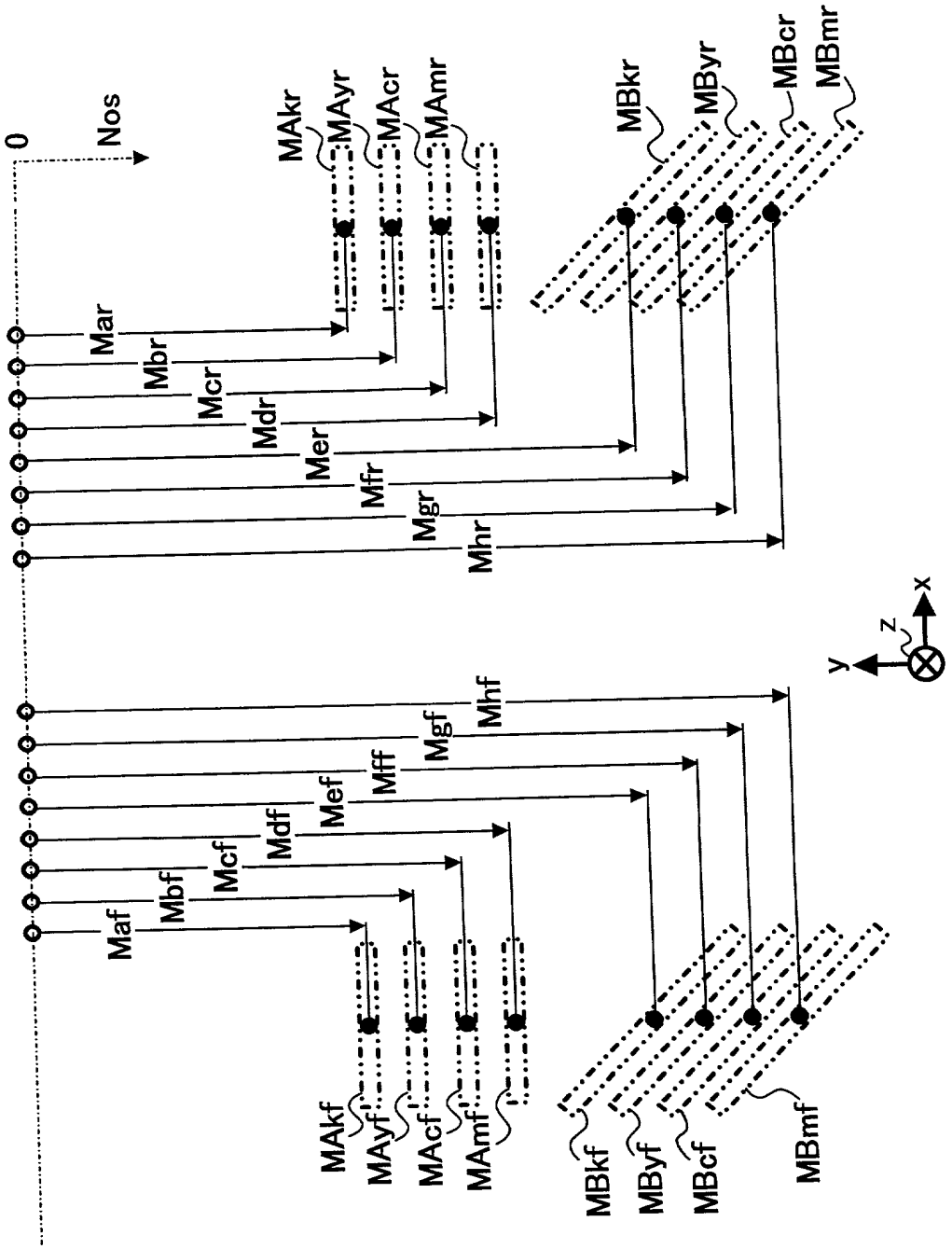

0
Nos
Mar
Mbr
Mcr
Mdr
Mer
Mfr
Mgr
Mhr
Maf
Mbf
Mcf
Mdf
Mef
Mff
Mgf
Mhf
MAkr
MAyr
MAcr
MAmr
MBkr
MByr
MBcr
MBmr
MAkf
MAyf
MAcf
MAmf
MBkf
MByf
MBcf
MBmf
x
y
z

FIG. 17

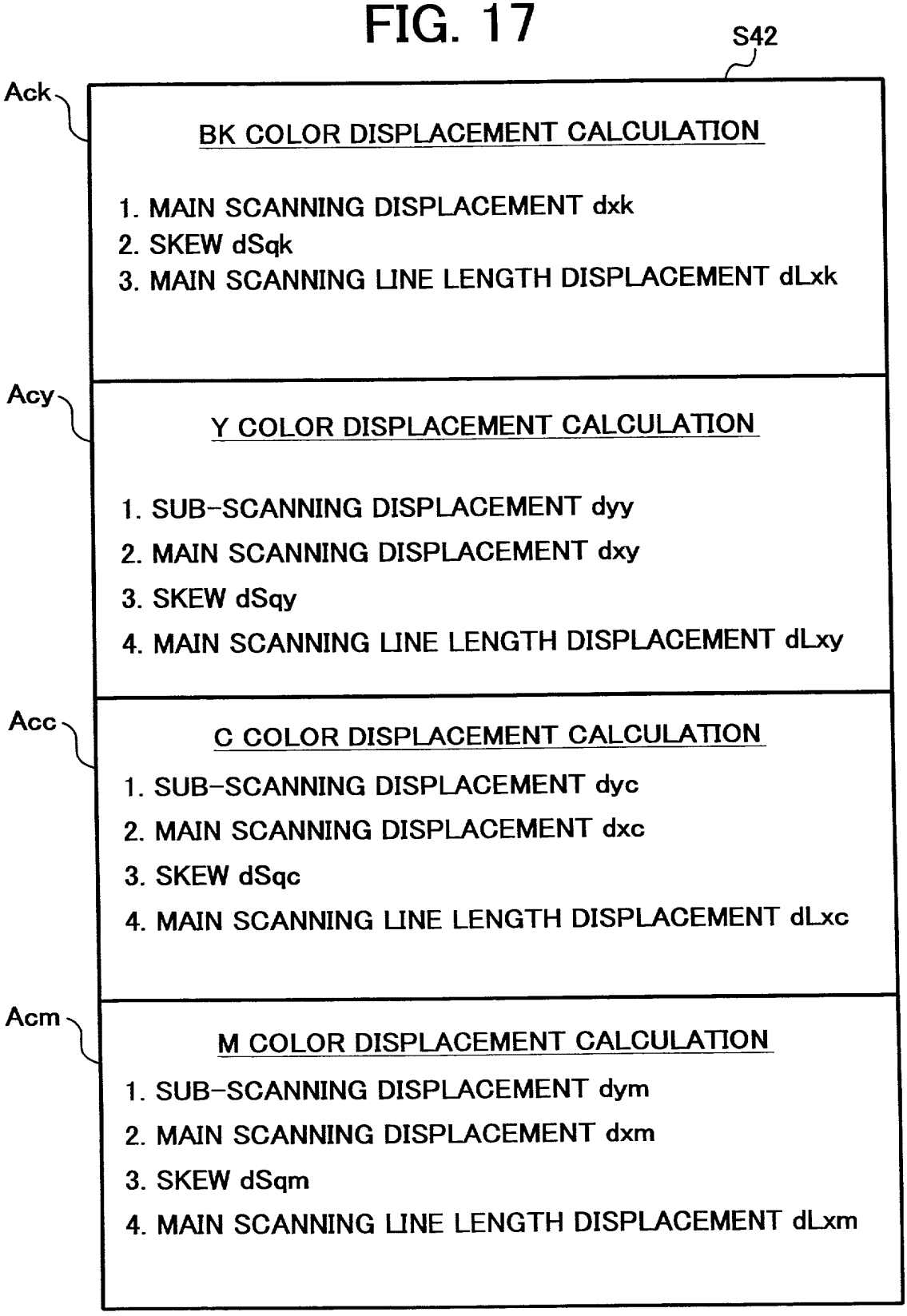

S42
Ack
BK COLOR DISPLACEMENT CALCULATION
1. MAIN SCANNING DISPLACEMENT dxk
2. SKEW dSqk
3. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxk
Acy
Y COLOR DISPLACEMENT CALCULATION
1. SUB-SCANNING DISPLACEMENT dyy
2. MAIN SCANNING DISPLACEMENT dxy
3. SKEW dSqy
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxy
Acc
C COLOR DISPLACEMENT CALCULATION
1. SUB-SCANNING DISPLACEMENT dyc
2. MAIN SCANNING DISPLACEMENT dxc
3. SKEW dSqc
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxc
Acm
M COLOR DISPLACEMENT CALCULATION
1. SUB-SCANNING DISPLACEMENT dym
2. MAIN SCANNING DISPLACEMENT dxm
3. SKEW dSqm
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxm

FIG. 18

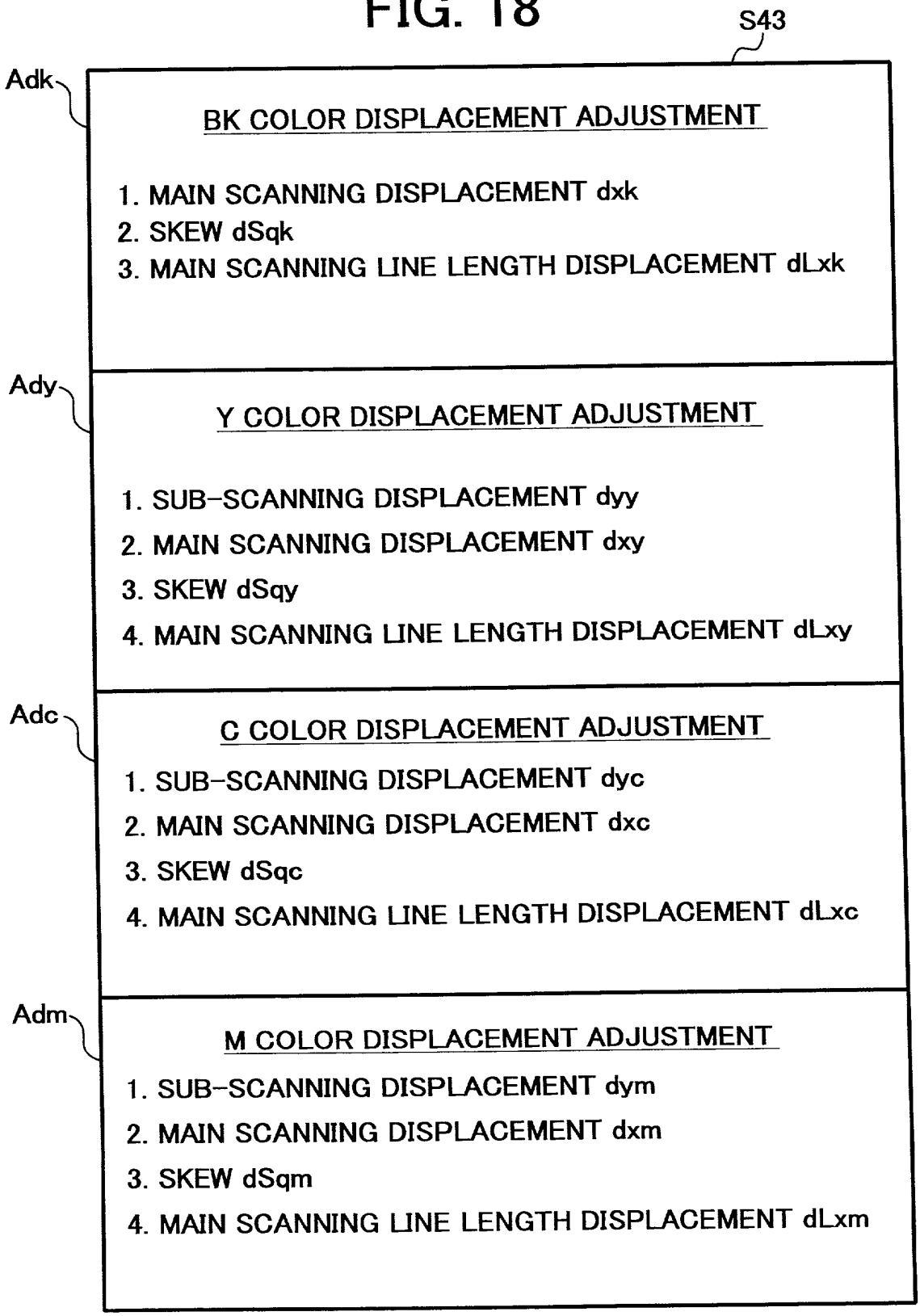

S43
Adk
BK COLOR DISPLACEMENT ADJUSTMENT
1. MAIN SCANNING DISPLACEMENT dxk
2. SKEW dSqk
3. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxk
Ady
Y COLOR DISPLACEMENT ADJUSTMENT
1. SUB-SCANNING DISPLACEMENT dyy
2. MAIN SCANNING DISPLACEMENT dxy
3. SKEW dSqy
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxy
Adc
C COLOR DISPLACEMENT ADJUSTMENT
1. SUB-SCANNING DISPLACEMENT dyc
2. MAIN SCANNING DISPLACEMENT dxc
3. SKEW dSqc
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxc
Adm
M COLOR DISPLACEMENT ADJUSTMENT
1. SUB-SCANNING DISPLACEMENT dym
2. MAIN SCANNING DISPLACEMENT dxm
3. SKEW dSqm
4. MAIN SCANNING LINE LENGTH DISPLACEMENT dLxm

FIG. 19

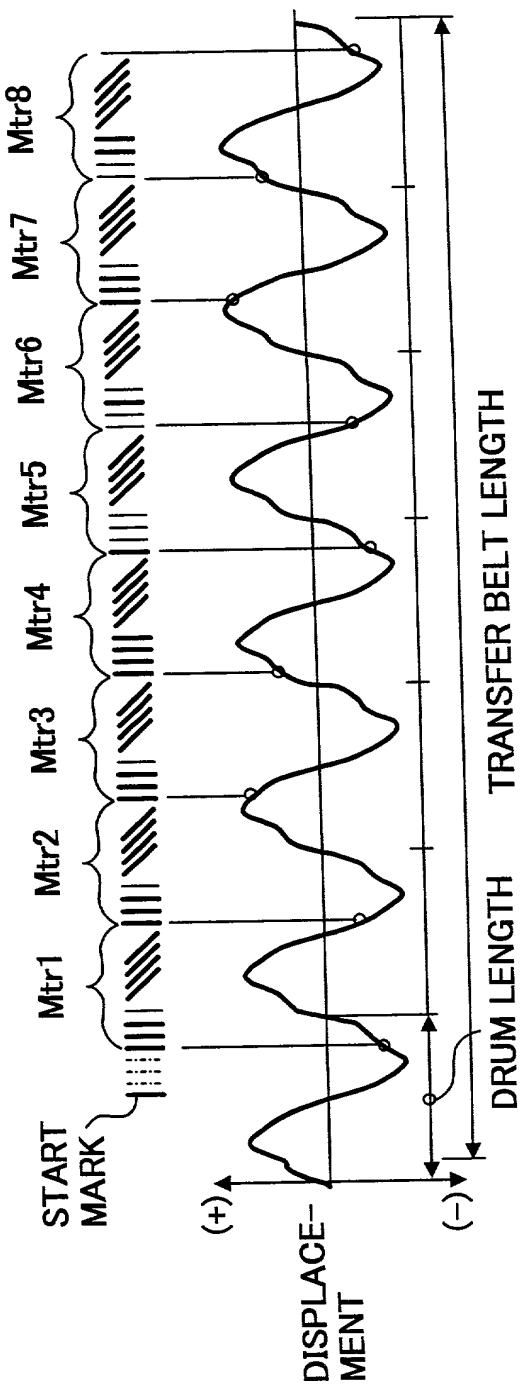
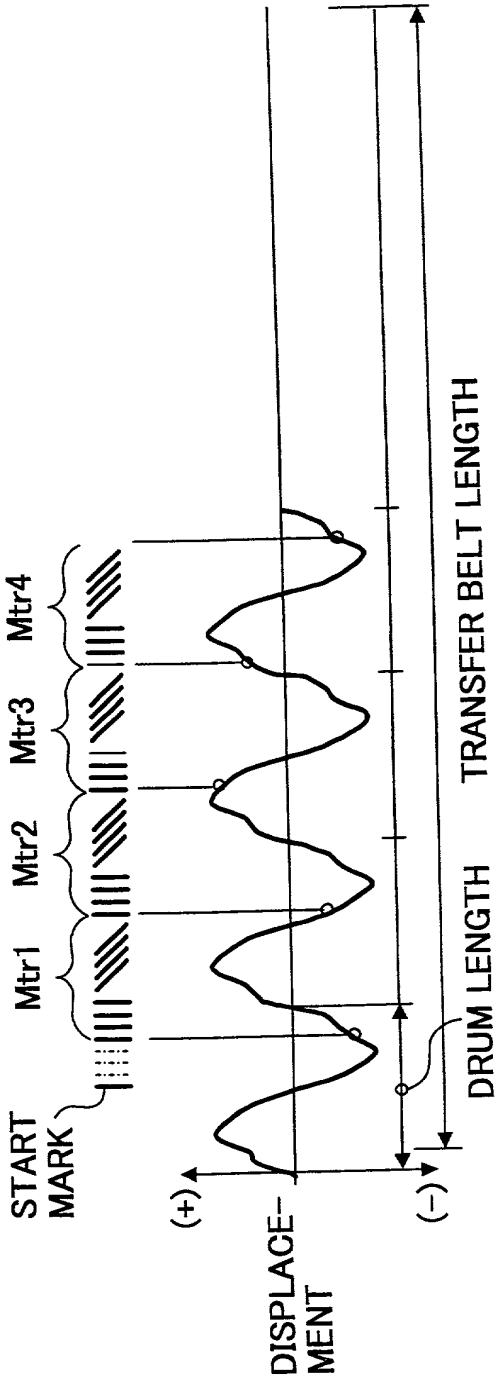

START MARK
Mtr1
Mtr2
Mtr3
Mtr4
Mtr5
Mtr6
Mtr7
Mtr8
(+)
(-)
DISPLACE-MENT
DRUM LENGTH
TRANSFER BELT LENGTH

FIG. 20


START MARK
Mtr1
Mtr2
Mtr3
Mtr4
(+)
(-)
DISPLACE-MENT
DRUM LENGTH
TRANSFER BELT LENGTH

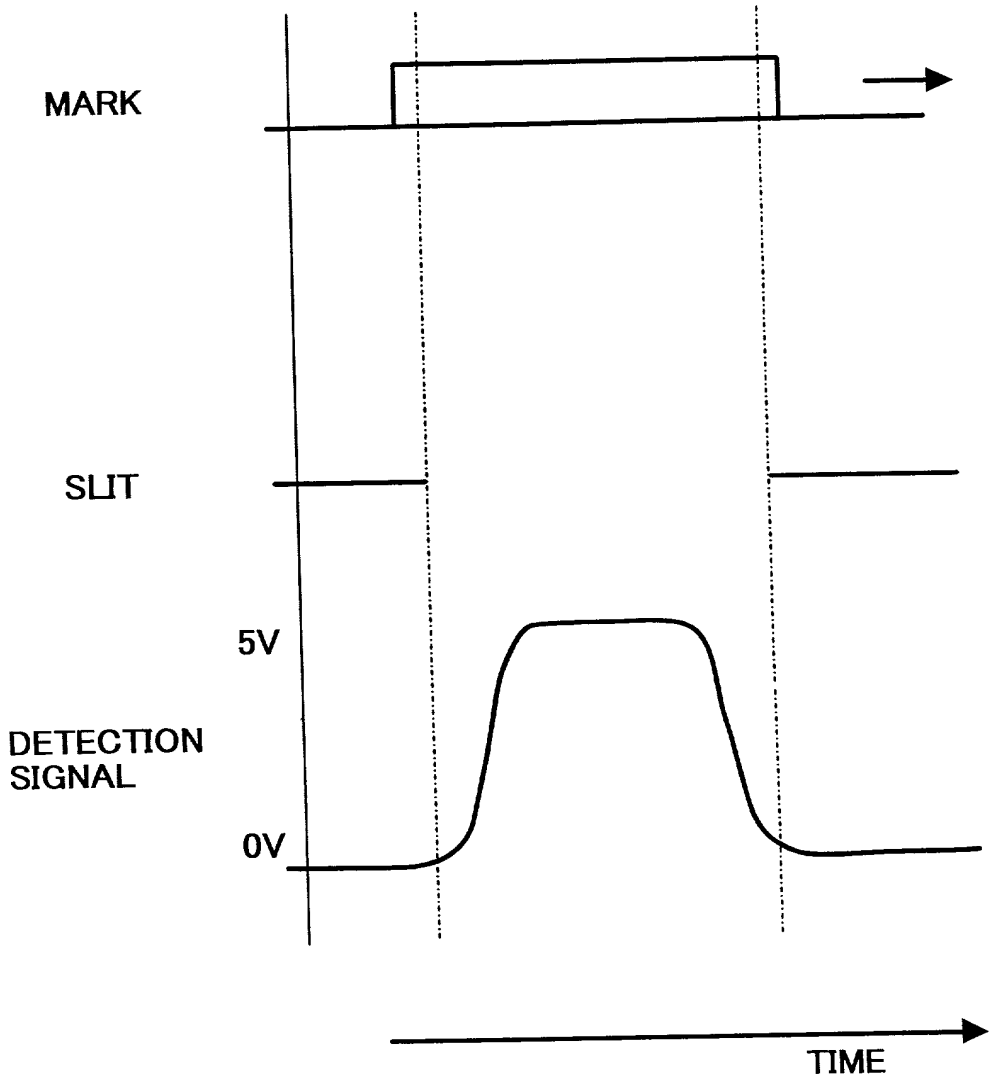



FIG. 21